# Enterprise Application Development in the Cloud Workshop Architecture



#### Introduction

- The next generation Development Platform for developing Enterprise Applications will be browser and cloud based.
- This Workshop will demonstrate what this Development Platform will look like and give students a hands on opportunity to experience this platform.

The Development Platform will consist of the following components:

- ★ Cloud based IDE Codenvy
- ★ Cloud based Development Runtimes Codenvy
- ★ Cloud based Production Runtimes Redhat OpenShift (on PaaS)
- ★ Cloud based Source Control System Github
- ★ Cloud based Automated Build System Redhat Openshift (using Jenkins)
- ★ Cloud based DevOps Automation Jenkins, JUnit, Maven, JMeter (using flood.io)





#### Reference Architecture and SDK

- The Workshop will leverage a Reference Architecture as a teaching tool:
  - ★ Fully functioning end to end system (using one IoT application and two enterprise applications)
  - ★ Applications written in Java and PHP (languages the students already know)
  - ★ Fully documented (providing an example of engineering rigor and discipline used to build a SDK)
  - ★ Will be used as guide and for a reference within the class materials
  - ★ Will provide the students with all the scaffolding to get their Cloud development started:
    - ✓ Spring Frame application template (can be cloned from a GIT repository)
    - ✓ Laravel Application application template (can be cloned from a GIT repository)
    - ✓ Requirements and Documentation
    - ✓ Step by step instructions for how to get started

      NOTE: depending on the interest I am also thinking of building a Reference Architecture v2 using the MEAN Stack





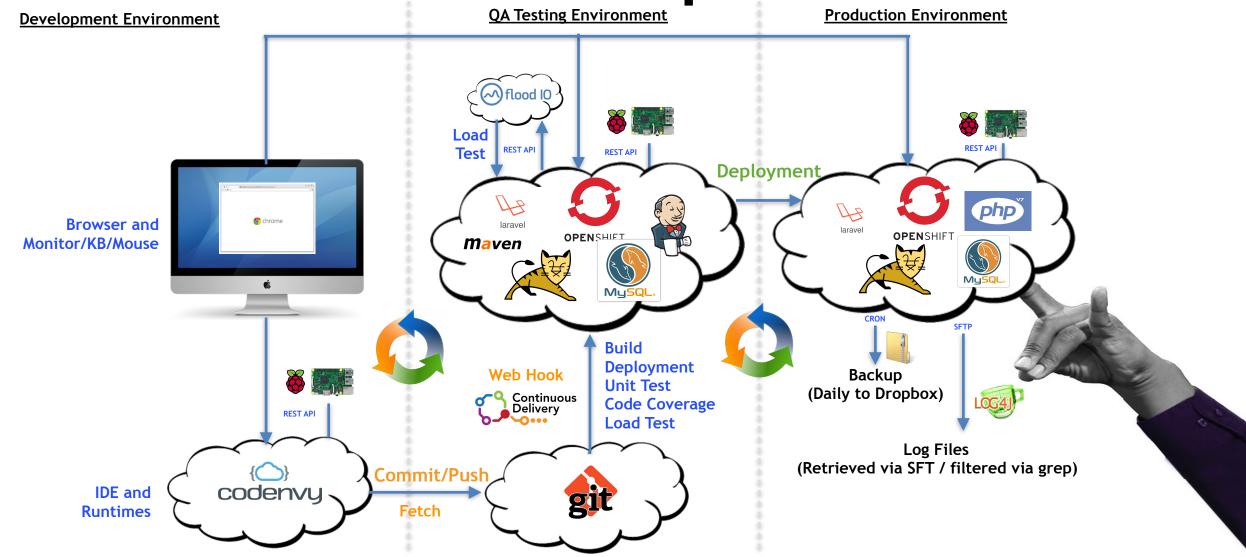
## **Reference Applications**

- The following applications will be built in the Workshop using the Cloud based Development Platform:
  - ★ IoT Server App Using Tomcat written in Java leveraging JAX-RS, JSON, and the Spring Framework
  - ★ Reporting App Responsive browser based written in PHP leveraging Bootrap (for responsive support), Grizzle (for HTTP Client for REST API), LavaCharts (for charting), and the Laravel Framework
    - \* An IoT App using a Raspberry Pi 3 written in Python consuming a REST API published on the IoT Server will be available for use in the Development Platform. The IoT application will be developed on the standard Raspberry Pi development environment outside of the Workshop.



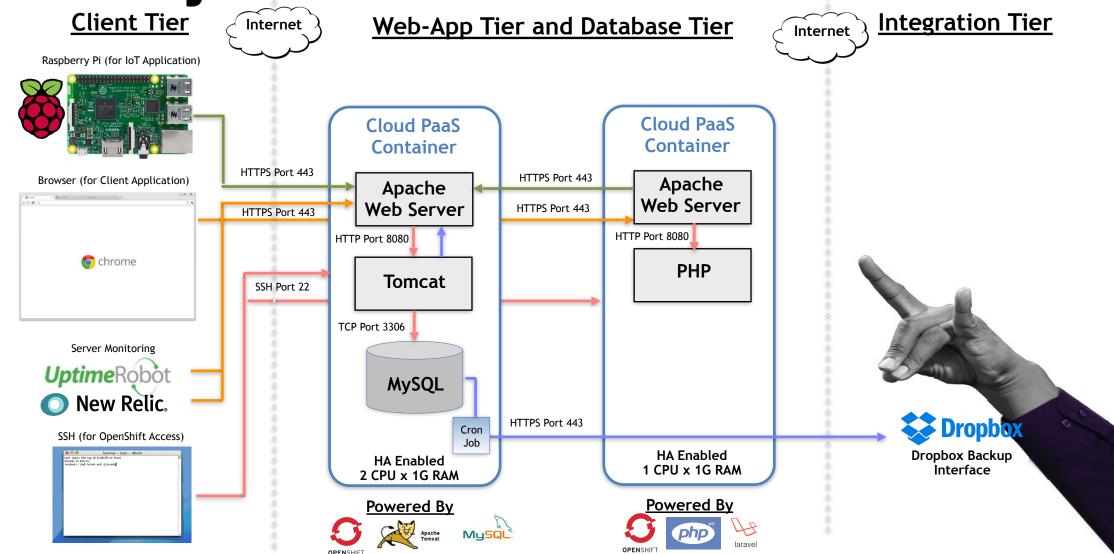


#### Cloud Based Development Platform



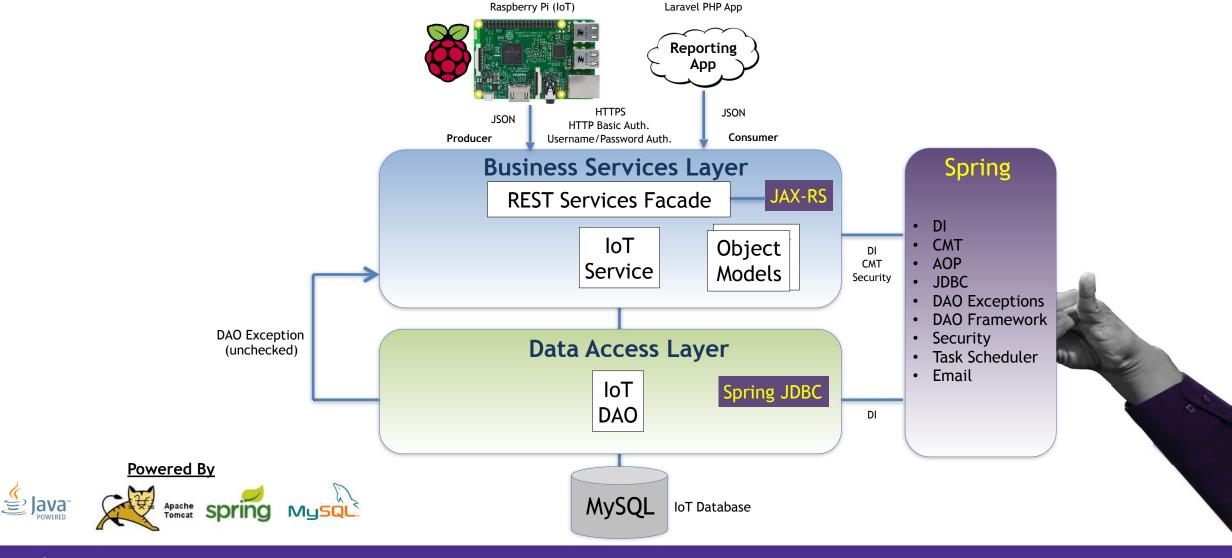


#### **Physical Cloud Architecture**



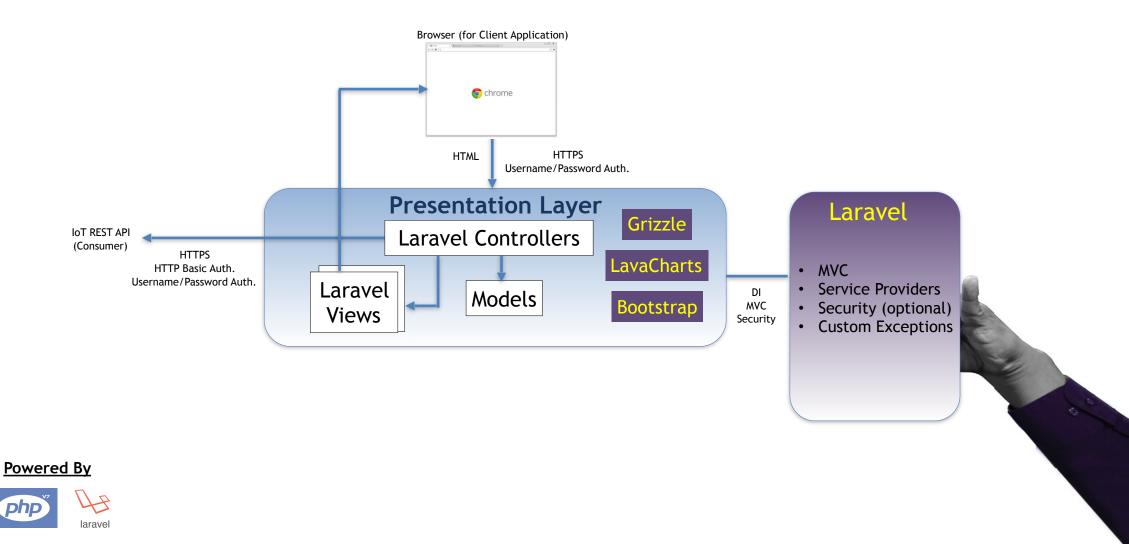


## IoT REST API Logical Architecture



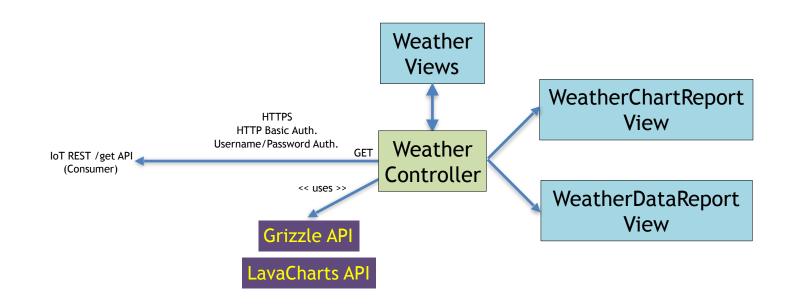


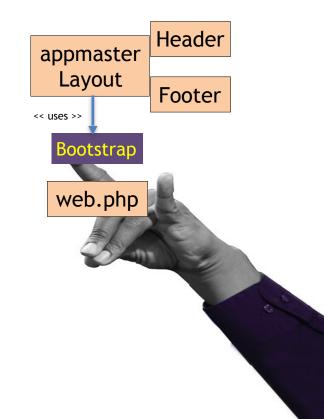
#### Reporting Application Logical Architecture





#### **Reporting Application Logical Architecture**





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